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# Are barriers in accessing health services in the Roma population associated with worse health status among Roma?

Pavol Jarcuska · Daniela Bobakova · Jan Uhrin · Ladislav Bobak ·  
Ingrid Babinska · Peter Kolarcik · Zuzana Veselska ·  
Andrea Madarasova Geckova · HEPA-META team

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## Abstract

**Objectives** The health of Roma has been found to be poorer than that of the majority population. The aim of this study was to explore the differences between Roma and non-Roma regarding perceived barriers in accessing health services. Furthermore, we aimed to assess the association between self-rated health status and Roma ethnicity and explore to what degree barriers in accessing health services explain this association.

**Methods** We used data from the cross-sectional Hepa-Meta study conducted in 2011 in Slovakia. The final sample comprised 452 Roma (mean age 34.7; 35.2 % men) and 403 (mean age 33.5; 45.9 % men) non-Roma respondents.

**Results** Roma ethnicity was found to be significantly associated with poorer self-rated health status. A consid-

erable part of this association can be explained by barriers in accessing health services as perceived by Roma.

**Conclusions** Worse health in Roma is partially mediated by worse access to health services, apart from a large educational gap between Roma living in settlements and the majority population. Interventions should focus not only on health literacy among Roma but also on the health care system and health care professionals.

**Keywords** Roma · Ethnicity · Self-rated health · Access to health services · Health inequalities · Slovakia

## Introduction

Roma are an extremely diverse population, with multiple subgroups based on language, history, religion and occupations (Koupilova et al. 2001). They live all over the world,

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Members of HEPA-META team are given in [Appendix](#)

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P. Jarcuska (✉)  
Department of Infectology and Travel Medicine, Medical  
Faculty, PJ Safarik University, Trieda SNP 1,  
040 01 Kosice, Slovak Republic  
e-mail: pavol.jarcuska@gmail.com

D. Bobakova · I. Babinska · P. Kolarcik · Z. Veselska ·  
A. Madarasova Geckova  
Graduate School Kosice Institute for Society and Health,  
PJ Safarik University, Kosice, Slovak Republic

D. Bobakova · I. Babinska · P. Kolarcik · Z. Veselska ·  
A. Madarasova Geckova  
Department of Health Psychology, Medical Faculty,  
Institute of Public Health, PJ Safarik University, Kosice,  
Slovak Republic

J. Uhrin  
1st Department of Psychiatry, Louis Pasteur University Hospital,  
Kosice, Slovak Republic

L. Bobak  
Associated Tissue Bank, Medical Faculty, Louis Pasteur  
University Hospital, PJ Safarik University, Kosice,  
Slovak Republic

A. Madarasova Geckova  
Department of Christian Education, Sts. Cyril and Methodius  
Faculty of Theology, Olomouc University Social Health  
Institute, Palacky University Olomouc,  
Olomouc, Czech Republic

HEPA-META team  
PJ Safarik University, Trieda SNP 1, 040 01 Kosice,  
Slovak Republic

but they are concentrated mostly in the Central Europe and the Balkans. To the best of our knowledge, the most realistic estimate of the Roma population in Slovakia comes from the Demographic Research Centre, which indicates that about 380,000 Roma, or 7.2 % of the total population, are currently living in the Slovak Republic (Filadelfiova et al. 2007; Reynolds 2005).

The health of Roma people has been found to be poorer than that of the majority population (Zeman et al. 2003; Hajioff and McKee 2000; Van Cleemput et al. 2007). Although studies regarding the health of Roma are scarce, we can find several studies that report higher infant mortality rates (rates are between 2 and 6 and differ within countries) and a shorter life expectancy among Roma than among the majority population (Rosicova et al. 2011; Sepkowitz 2006). In general, Roma men and women live 10–15 years shorter than their non-Roma counterparts from the same region (Sepkowitz 2006), have a higher prevalence of different diseases, such as coronary artery disease, obesity, hyperlipidaemia and diabetes mellitus, compared with the majority population and more frequently experience health problems/complaints (Sepkowitz 2006). Moreover, accumulation of several biological and behavioural risk factors for cardiovascular diseases was identified in Roma (Babinska et al. 2013; Carrasco-Garrido et al. 2011). Published studies on the health of the Roma are often fragmentary and burdened with methodological problems (Voko et al. 2009). Very few studies (Filadelfiova et al. 2007; Kosa et al. 2007; Janevic et al. 2012) asked respondents to report their own perception of their health status (self-rated health). Self-rated health has been shown to have multiple independent health-related correlates, including medical diagnosis, health complaints and mortality (Gold et al. 1996).

Health inequalities in Central and Eastern Europe seem to be larger in comparison to the rest of the Europe, and these differences might be attributed in part to smoking, alcohol use and access to health care (Mackenbach et al. 2008). Worse health of Roma might be mediated by worse access to good quality health care (Erasmus MC-University Medical Centre Rotterdam Rotterdam 2007). While several studies on the health status of Roma have been carried out, an assessment of Roma access to health care is fragmentary. A number of factors, which crucially influence access to health care and quality of treatment, have not been adequately studied (European Roma Rights Centre 2006). A report of the ERRC (European Roma Rights Centre 2006) reveals systemic exclusion of Roma from key aspects of health care. In some areas, it appears that Roma may only have access to health care in the context of emergency care and/or in the immediate circumstances of childbirth. Roma throughout Europe are excluded from preventive, primary and specialised health services, and numerous Romani women have no

access to pre and postnatal health care (European Roma Rights Centre 2006).

The aim of this study was to explore the differences between Roma and non-Roma regarding perceived barriers in accessing health services. Furthermore, we aimed to assess the association between self-rated health status and Roma ethnicity and explore to what degree barriers in accessing health services explain this association.

## Methods

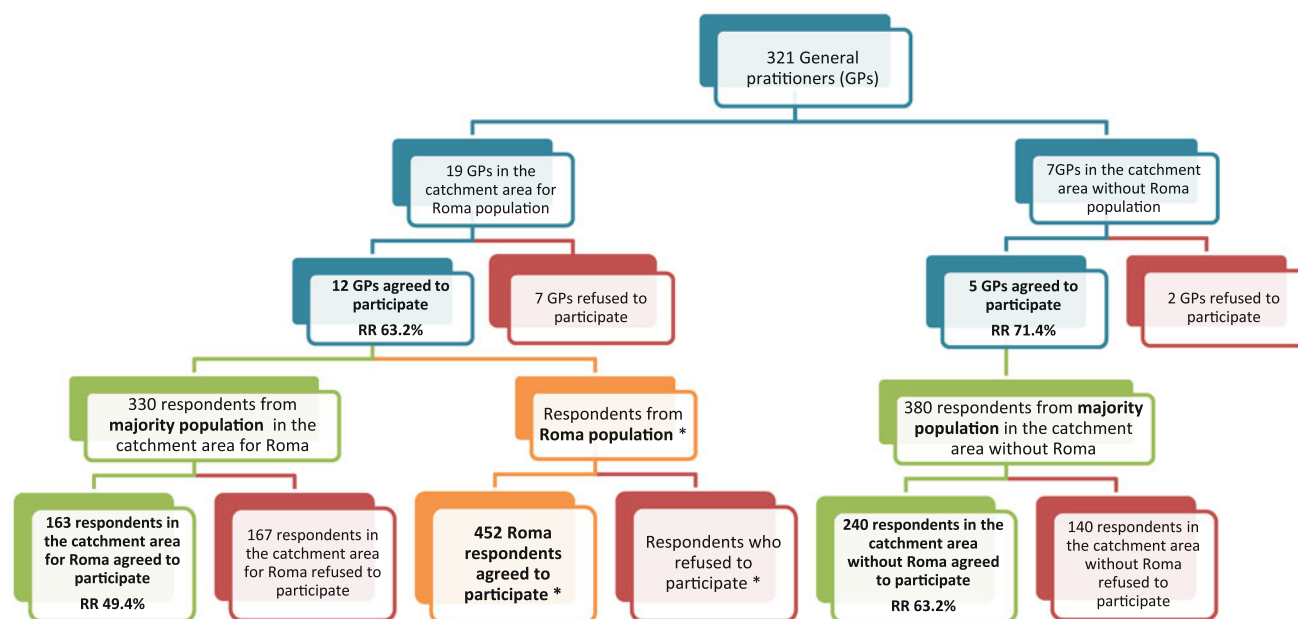
We used data from the cross-sectional HepaMeta study conducted in 2011 in Slovakia. This project aimed to map the prevalence of viral hepatitis B/C and metabolic syndrome in the population living in separated and segregated Roma settlements and to compare it with the occurrence of the same health indicators in the majority population in regard to the selected risk and protective factors of these health indicators.

### Sample and procedure

The highest concentrations of the Roma population in Slovakia can be found in the eastern part of the country (Slusna 2010). Therefore, the target population was residents of Roma settlements in the Kosice region aged 18–55, and the control group was the majority population in the same region and of the same age composition. The majority population was divided into two subgroups: majority population with (46 %) and without (54 %) Roma population living in the vicinity.

We randomly selected 37 separated or segregated Roma settlements with at least 300 inhabitants from each district of Kosice region. We identified the general practitioners (GPs) who provided primary care for the inhabitants of these settlements, yielding 30 GPs. From these, we randomly selected 19 who were contacted and 12 agreed to participate (response rate 63 %). For the majority population, we identified areas with socially diverse population without Roma community in the vicinity where we randomly chose seven general practitioners. Five agreed to participate in our study (response rate 71 %).

A Roma sample stratified in regard to gender and age was recruited directly in the settlements by cooperating with local Roma community workers. From all the Roma who were present in the settlements and received information about our study, 452 Roma participated. Since the recruitment of Roma patients was carried out under the unpredictable conditions of Roma settlements, we were unable to record and compute the response rate. Respondents from majority population were randomly chosen



RR – response rate; \* – missing data on response / non-response in Roma

**Fig. 1** Recruitment of the Roma and non-Roma population (Kosice Region, Slovakia, 2011)

from the list of patients provided by the general practitioners. These patients were contacted via phone and mail by trained research assistants, who provided information about our study and invited them to participate. Further details of recruitment of the Roma and non-Roma population can be seen in Fig. 1.

Detailed information about our study and its procedures was given to all patients and informed consent was signed prior to medical check-ups. Trained medical personnel collected the blood and urine samples and performed anthropometric measures in the surgeries of cooperating general practitioners. For the majority population, trained assistants were present in the surgeries to assist with the questionnaires, if needed. Roma respondents were interviewed individually by trained community workers and assistants in community centers. We used an assisted self-administered interview adapted from other methods of collecting survey data which seem to have the smallest impact on the data reliability (Tourangeau and Smith 1996). The study was approved by the Ethics Committee of the Medical Faculty at Safarik University in Kosice. Participation in the study was fully voluntary and anonymous. Inclusion criteria for the respondents were as follows: no preventive medical check-up in the past 2 years, no acute illness, appropriate age and be able to take a time off from the work during the week of data collection in the surgery of their general practitioner. The final sample comprised 452 Roma (mean age 34.7; SD 9.14; 35.2 % men) and 403 (mean age 33.5; SD 7.4; 45.9 % men) non-Roma respondents.

## Measures

*Self-rated health* was measured by asking respondents the question: “Would you say your health is: *Excellent/Good/Fair/Poor?*” (Idler and Benyamini 1997; Currie et al. 2008). The responses *Excellent* and *Good* were merged into the category “Good health status” and the responses *Fair* and *Poor* were merged into the category “Poor health status”.

*Barriers in accessing health services* were measured by asking respondents the question: “What are the main reasons for your difficulties in seeking and providing the necessary health services needed? Mark each alternative which concerns your difficulties.” Possible responses were: 1) *I do not have enough money for medication and transportation to a doctor.* 2) *I do not know where to seek health services/I cannot orientate in the city/village.* 3) *I have a very bad traffic connection to health services.* 4) *I do not trust health care professionals.* 5) *I once had a bad experience when visiting a doctor, I fear the examination.* 6) *I have difficulties with providing babysitting for my children when I or one of my children needs to see a doctor.* 7) *I prefer to treat myself at home using my own curative methods.* The items were previously tested in pilot study and were carefully selected by expert group consisted from Roma health mediators and community workers, public health experts and academics. Factor analysis was used and one factor was then extracted—all 7 items loaded into one factor with factor loadings varying from 0.44 to 0.64. Kaiser–Meyer–Olkin measure of sampling adequacy was 0.79 and Bartlett’s test of sphericity was significant ( $p < 0.001$ ). *Highest education* as a socio-

economic position indicator was measured by asking respondents the question: “What is your highest educational degree attained?” Possible responses were: *Unfinished elementary/Finished elementary/Apprenticeship/Secondary/University*. We merged first two categories into one category: *Elementary* and last two categories into one category: *Higher education*.

### Statistical analyses

First, we used Chi-square statistics and independent samples *T* test to explore the differences between Roma and non-Roma regarding independent and outcome variables. Next, we explored the distribution of particular barriers in accessing health services among Roma and non-Roma using Chi-square statistics. Finally, logistic regression analysis was used to assess differences in self-rated health by ethnicity and the degree to which barriers in accessing health services could account for these ethnic differences. Model 1 tested the crude association of self-rated health with ethnicity. Model 2 was adjusted for gender and age. Model 3 was adjusted for barriers in accessing health services in order to explore whether this would explain the associations with ethnicity. Furthermore, we tested interaction of ethnicity with highest education. We also assessed the interactions between highest education and barriers in accessing health services. All data were analysed using IBM SPSS 20 and Stata 11.

## Results

There are significantly more women, those reported poor self-rated health and those with lower education among Roma in comparison to non-Roma and Roma (Table 1).

Occurrence of particular barriers in access to health services was significantly higher among Roma in comparison to non-Roma (Table 2). Roma living in a settlements reported the lack of the money for medication and transport (43.6 vs. 5.2 %), bad traffic connection (12.8 vs. 3.2 %) and bad experience, fear or lack of trust (17.2 vs. 5.7 %) significantly more frequently than non-Roma. Preference of own curative methods was also highly prevalent among Roma (14.4 vs. 6.0 %).

Roma have more than 3 times higher chance to report poor self-rated health in comparison to non-Roma (Table 3, Model 1) and adjusting for gender and age decrease likelihood of reporting poor self-rated health among Roma only slightly (Table 3, Model 2). Perception of barriers in access to health care increased the likelihood of reporting poor self-rated health (Table 3, Model 3) and adding barriers in accessing health services into the model decreased the association between self-rated health and Roma ethnicity by 23.5 % (Table 3, Model 3). Significant interaction of ethnicity with highest education indicates increasing effect of ethnicity on self-rated health with decreasing level of highest education (Table 4). We omitted main effects of ethnicity and highest education in this analysis because with significant interaction, main effects lose their meaning, since the effects are crossed. Roma with lowest level of education (unfinished elementary or elementary education only) have 2.64 times higher chance to report poor self-rated health in comparison to non-Roma with higher level of education (secondary or university education). Similarly, Roma with middle level of education (apprenticeship) have 2.04 times higher chance to report poor self-rated health in comparison to non-Roma with higher level of education (secondary or university education). We also assessed whether the effect of barriers in accessing health services on likelihood of reporting poor

**Table 1** Distribution of covariates among Roma and non-Roma (Kosice Region, Slovakia, 2011)

	Non-Roma		Roma		Total		Roma vs. non-Roma <i>p</i> value
	<i>N</i> = 403	%	<i>N</i> = 452	%	<i>N</i> = 855	%	
Gender							<0.01 <sup>a</sup>
Men	185	45.9	159	35.2	344	40.2	
Women	218	54.1	293	64.8	511	59.8	
Self-rated health							<0.001 <sup>a</sup>
Good health status	324	82.9	264	59.3	588	70.3	
Poor health status	67	17.1	181	40.7	248	29.7	
Highest education							<0.001 <sup>a</sup>
Higher	300	76.3	10	2.3	310	37.1	
Apprenticeship	84	21.4	73	16.5	157	18.8	
Elementary	9	2.3	360	81.3	369	44.1	
Difficulty in access HS, mean (SD)	0.24 (0.54)		1.05 (1.34)		<i>N</i> = 857		<0.001 <sup>b</sup>

<sup>a</sup> Chi-square tests

<sup>b</sup> *T* test

**Table 2** Distribution of particular difficulties in access to health services among Roma and non-Roma (Kosice Region, Slovakia, 2011)

	Non-Roma		Roma		Total		Roma vs. non-Roma <i>p</i> value
	<i>N</i> = 403	%	<i>N</i> = 452	(%)	<i>N</i> = 855	%	
Lack of money	21	5.2	197	43.6	218	25.5	<0.001
Bad orientation	5	1.2	38	8.4	43	5.0	<0.001
Bad traffic connection	13	3.2	58	12.8	71	8.3	<0.001
Do not trust	7	1.7	29	6.4	36	4.2	<0.001
Bad experience/fear	16	4.0	49	10.8	65	7.6	<0.001
No babysitting for children	9	2.2	35	7.7	44	5.1	<0.001
Own curative methods	24	6.0	65	14.4	89	10.4	<0.001

**Table 3** Self-rated health in Roma, crude and with adjustment for gender, age, and difficulty in access to health services (HS): odds ratios (OR) and 95 % confidence intervals (CI) (Kosice Region, Slovakia, 2011)

Self-rated health	Model 1, OR (95 % CI)	Model 2, OR (95 % CI)	Model 3, OR (95 % CI)
Ethnicity			
Non-Roma	1 (reference)	1 (reference)	1 (reference)
Roma	3.27 (2.36–4.52)***	3.18 (2.28–4.43)***	2.66 (1.87–3.78)***
Gender			
Men		1 (reference)	1 (reference)
Women		1.08 (0.78–1.49)	1.11 (0.80–1.54)
Age		1.05 (1.03–1.07)***	1.05 (1.03–1.07)***
Difficulty in access HS			1.25 (1.08–1.44)**

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ **Table 4** The interaction between Ethnicity and Highest education, odds ratios (OR) and 95 % confidence intervals (CI) (Kosice Region, Slovakia, 2011)

Self-rated health	OR (95 % CI)
Gender	
Men	1 (reference)
Women	1.13 (0.81–1.57)
Age	1.05 (1.03–1.07)***
Difficulty in access HS	1.30 (1.11–1.52)**
Ethnicity by highest education	
Higher	1 (reference)
Apprenticeship	2.04 (1.15–3.62)*
Elementary	2.64 (1.19–3.75)***

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ 

self-rated health was modified by highest education, and this did not show any statistically significant interaction effects (not shown).

## Discussion

The aim of this study was to explore the differences between Roma and non-Roma regarding perceived barriers

in accessing health services. Furthermore, we aimed to assess the association between self-rated health status and Roma ethnicity and explore to what degree barriers in accessing health services explain this association. Roma in comparison to non-Roma have three times higher chance to report worse self-rated health. Worse self-rated health among Roma seems to be partially explained by their worse access to health services. Roma reported the lack of money for medication and transport and bad experience, fear or lack of trust to be the most common barriers they perceive. These barriers can be understood as institutional and intrapersonal discrimination of Roma which affect health condition of this highly discriminated group (Bastos and Faerstein 2012). However, differences in the use of health care services might arise from differences in social norms, values and health beliefs such as the purity of the body or fatalism which are typical for Roma (Zeman et al. 2003; Vivian and Dundes 2004; Van Cleemput et al. 2007). Highest educational degree attained further explains ethnic differences in self-rated health, but does not seem to play the role in the association between barriers in accessing health services and poorer self-rated health status. No interaction was found between barriers in access to health services and highest education. It might be caused by relatively small numbers of respondents for some of the



combinations of ethnicity and education, what limits the power of these analyzes. Salloway (in Puporka and Zadori 1999) reported that Roma simply have access to the worst quality services and this is why they do not like to use them, which leads to worse health. According to Mackenbach et al. (2008), there are also differences between socio-economic groups in the way of using health services. Lower socio-economic groups such as Roma more often use forgone health care and less often use preventive care compared to higher socio-economic groups who prefer specialist care (Mackenbach et al. 2008).

Roma perceive significantly more barriers in accessing health services compared with non-Roma. Barriers in accessing health services perceived by Roma might arise from the nature of separated or segregated Roma settlements, which suffer from a high degree of deprivation. It may also be a consequence of discrimination, health beliefs and behavioural differences, or resistance to assimilation leading to the non-use of various services (Kolarcik et al. 2009). Worse access to health services in Roma has previously been widely discussed by experts (Kolarcik et al. 2009; Lynch 2006; Kosa et al. 2007; Koupilova et al. 2001; Masseria et al. 2010; Peters et al. 2009), but only scarce evidence exists on barriers in accessing health services (European Roma Rights Centre 2006; Fundacion Secretariado Gitano (FSG) 2009).

Roma from our study reported the lack of money (43.6 %) for medication and transportation to be the most common difficulty they perceive. According to the Slovak constitution, everybody has the right to access basic health care free of charge (Constitution-40). Puporka and Zadori (1999) extended the idea about access to health services among Roma. They stated that even though health care should be accessible and free of charge for everybody, certain health care services require payment (dental care). The poor financial status of Roma often makes them unable to pay even small charges, which makes their access to the health care worse. They also brought up the idea of costs for travelling from a patient's residence to a health care institution as a potential difficulty (Puporka and Zadori 1999). This supports our findings, although we have doubts about whether Roma have the proper information about their rights regarding health services (Marcincin and Marcincinova 2009).

Additional common barriers reported by Roma were that they prefer to treat themselves at home using their own curative methods, have a bad traffic connection and have previously had a bad experience when visiting a doctor. These barriers have been previously discussed by some authors, which support our findings. Self-treatment in particular seems to be typical for Roma unless the pain is unbearable. Health complaints other than pain or fever are not considered to be serious enough by Roma to visit the

doctor (Puporka and Zadori 1999). Moreover, preferring traditional curative methods is still possible in separated and segregated Roma settlements (Puporka and Zadori 1999) of the kind we examined. A bad traffic connection as one of barriers seems to be rather logical, arising from the essential nature of separated and segregated settlements, which often have the nearest traffic connection several kilometres away. A bad experience from visiting a doctor might be caused by the unfriendly or even rude attitudes of doctors or nurses (Lynch 2006), which might lead to reluctance to visit the doctor again. We witnessed such attitudes during the data collection.

Differences found in self-rated health between Roma and non-Roma are in line with previous studies (Van Cleemput et al. 2007; Hajioff and McKee 2000; Zeman et al. 2003). Findings from studies comparing self-rated health of Roma and non-Roma population support our findings regarding worse health and extremely low educational level of Roma (Kosa et al. 2007; Janevic et al. 2012). We found 80 % of Roma attained at most an elementary education, which represents a hugely significant gap between Roma living in separated or segregated settlements and the majority population. Results of interactions revealed an important role of education in regard to health of Roma population. Roma compared to non-Roma seem to be more sensitive on the effect of highest education on self rated health, or in other words, the undesirable effect of living in Roma settlements and having low education cumulate and significantly contribute to gap in health between Roma and non Roma population. Living in a Roma settlements indicates an accumulation of socio-economic disadvantages like segregation, poor housing, overcrowding, limited access to drinking water and a lack of sewage systems, and these communities experience generational poverty, a high prevalence of long-term unemployment, a low educational level and high risk of discrimination, violence and usury (Derevjanikova 2010; Filadelfiova et al. 2007; Marcincin and Marcincinova 2009; Vasecka and Dzambazovic 2000; European Union Agency for Fundamental Rights 2009; Schaaf 2011). Our findings support the part of puzzle in the explanation of poor health status of Roma which can be explained by (1) different socio-economic characteristics (living conditions, access to sources and services, extended poverty, territorial segregation), (2) cultural differences (health literacy, health-related behaviour, e.g. nutritional habits, use of psychoactive substances, physical activity and disease prevention), (3) psychosocial factors (stress from discrimination and social exclusion, depression, hopelessness and life satisfaction), (4) biological and genetic differences and (5) disadvantages accumulation (Rosicova et al. 2009; Gourgoulanis et al. 2000; Krajcovicova-Kudlackova et al. 2004; Petek et al. 2006; Panzarella et al. 2006; Proctor et al. 2009; Stansfeld et al. 1998).

## Strengths and limitations

The strengths of our study are that it comprises a considerable representative sample of a hard-to-reach population living in separated or segregated Roma settlements. We were able to compare them with the majority population living in the same geographical area, although our results should be generalised with caution, as Roma are a very heterogeneous group in terms of living conditions and levels of integration, thus our results can be generalized only to the Roma population living in Roma settlements.

A limitation of our study may be that data from the Roma were collected via an interview, and data from the non-Roma came via self-reported questionnaires. The reason for this was to cope with illiteracy among the Roma, which we considered to be a more serious source of non-response and bias than using two different types of administration. In Roma, we used the technique of assisted self-administration, which has shown good reliability of data (Tourangeau and Smith 1996). Moreover, using this technique was found to be a good decision, as most of Roma were not able to fill in questionnaires without assistance.

Another limitation may be the low response rate (56 %) of the majority population. The main reasons for non-response were that respondents had already undergone a preventive check-up in the past 2 years or were not able to take a time off from work during the week of data collection in the surgery of their general practitioner. Since recruitment of the Roma sample took place directly in settlements under specific circumstances, it was not possible to follow the number of Roma asked to participate and the number of refusals and later calculate the response rate. The main reasons for non-response were fear of giving a blood sample and reluctance or fear of visiting a general practitioner.

## Implications

Our results suggest that worse health among Roma compared with non-Roma is mediated by worse access to health services, apart from a large educational gap between Roma and non-Roma. A part of the barriers in accessing health services apparently arises from the nature of separated and segregated Roma settlements (e.g. transport). Another important factor is cultural divergence regarding health belief and the attitudes of Roma and their distrust of the health care system arising from previous experiences. These findings offer scientific background for social and community workers and their potential interventions. Not only interventions regarding health literacy among Roma are important but also interventions regarding prejudices among health-care

professionals. Health care professionals should be aware of the limitations and specifics of working with Roma and their special needs and should be able to effectively communicate and work with them in regard to the overall positive effect on the global health of the population, including Roma. This might be transferable also to other countries and other ethnic minorities as problems and associations explored in our study apply to these as well (Mackenbach et al. 2008). Future research should then focus on the validation of interventions put into practice and bring deeper insight into Roma needs regarding the health care system.

## Conclusion

Worse health in Roma compared with non-Roma is partially mediated by worse access to health services, apart from the large educational gap between Roma living in separated or segregated Roma settlements and the majority population. Interventions should focus not only on health literacy among Roma but also on “Roma literacy” among health care professionals and policy makers, and should address prejudices, cultural divergence, effective communication and the specifics of working with Roma patients.

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## Appendix

HEPA-META team: Jarčuška Peter, Pella Daniel, Mareková Mária, Siegfried Leonard, Pastvová Lýdia, Fedačko Ján, Kollárová Jana, Dražilová Sylvia, Rosenberger Jaroslava, Schréter Ivan, Kristián Pavol, Veseliny Eduard, Janičko Martin, Virág Ladislav, Birková Anna, Kmeťová Marta, Halánová Monika, Cáríková Katarína, Petrášová Darina, Lovayová Viera, Merkovská Lucia, Jedličková Lucia, Valková Ivana. \* Safarik University, Trieda SNP 1, 040 01, Kosice, Slovak Republic. <http://www.lf.upjs.sk/hepameta>

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